

The Historical Development of Medial */ee/* and */oo/* in Hausa

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INTRODUCTION

In recent years a number of discoveries have been made concerning the historical development of Hausa consonants (see summary in Newman 1977:13-14). These findings, taken in the context of broader comparative Chadic studies, have permitted us to relate Hausa to its sister languages in a systematic way, identify true cognates, and thus come to an understanding of the likely consonant system of Proto-Hausa and of the nature and sequence of various changes that have taken place from then to the present.

By contrast, Hausa vowels (like vowels in comparative Chadic work in general) have been terribly neglected. The pioneer work on West Chadic vowels by Schuh (1978), however, finally provides the much-needed impetus for the historical study of Hausa vowels as well as the essential foundation on which such study can be based. While the major concern of Schuh's study is the Bole group (his "Bole-Tangale" group), he also discusses Hausa in some detail and outlines what in his opinion the Proto-Hausa vowel system is most likely to have been. The purpose of the present paper is to carry forward Schuh's work by providing a more accurate picture of the Proto-Hausa vowel system and a more detailed account of subsequent historical developments. This historical analysis also leads to a natural phonological explanation for morphologically conditioned cases of ablaut and vowel alternation in present-day Hausa. The central question treated in this paper concerns the origin and development of the vowels *ee* and *oo* in medial position, for which I propose to provide an

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integrated, internally consistent model. I should emphasize *internally consistent*, since the historical model being presented is based primarily on internal reconstruction and only secondarily on comparative evidence.

1. PROTO-HAUSA VOWEL SYSTEM

A major methodological/conceptual advance in Schuh's study is the realization that the "vowel system" of Proto-Bole (and presumably that of Proto-West Chadic and even Proto-Chadic) is really a composite of co-existing vowel systems within the same language depending on the position of the vowels within the word. In initial position, Proto-Bole (PB) is reconstructed with 2 vowels, **i* and **a*, while in final position it is reconstructed with 5 vowels, **i*, **e*, **a*, **o*, **u*. In neither position is length distinctive, the normal realization being short.¹ In medial position, on the other hand, length has to be taken into account. Here, PB is reconstructed with 2 short vowels, **i/u* and **a*, and 5 long vowels, **ii*, **ee*, **aa*, **oo*, **uu* (**ii* and **ee* being reconstructed on systematic rather than comparative grounds).

Since Hausa and Bole are sister groups within the same subbranch of Chadic – Hausa being I.A.1 and Bole I.A.2 according to the Newman (1977) classification – one would expect the vowel systems of Proto-Hausa (PH) and PB to be similar, although not necessarily identical. In initial position, PH does seem to match PB exactly in having the same two vowels only, **i* and **a*. In present-day Hausa this system is obscured because the language no longer has vowels initially, all words now obligatorily beginning with a consonant. It is easy to demonstrate, however, that at an earlier period Hausa did allow vowel-initial words and that the present-day phonotactic restriction was achieved by the phonemicization of [ʔ] and [h] (see Newman 1976), e.g. *ɓidò* 'eye' < **idò*, cf. Karekare *idó*; *hancii* 'nose' < **antín*, cf. Pa'a *atín*.²

Similarly, it seems reasonable to postulate 5 vowels in final position for PH, **i*, **e*, **a*, **o*, **u*, and to match these with the corresponding PB final vowels. Although cognates between Hausa and Bole group languages are hard to find for some of the vowels (especially /e/), the internal and comparative evidence taken as a whole supports the view that all 5 vowels were fully phonemic in PH and that they had been inherited as such from a much earlier period. Synchronically, all 5 final vowels of Hausa exhibit a length distinction, and in nouns, at least, the long vowels clearly have the unmarked value. As suggested independently by Greenberg (1978) and Schuh (1978), these long vowels (and the resulting length contrast) can best be explained, not phonologically, but in terms of a historical morphological development from a lost article.³ In PH, we can assume that the final vowels were short, as postulated for PB.

Regarding the medial vowels, Schuh notes that correspondences between

Hausa and the Bole group are difficult to establish (this also being true for some vowels even within the Bole group). Nevertheless, he claims that the PH medial vowel system is likely to have been the same as that of PB, i.e. containing one high and one low short vowel plus 5 long vowels. In this case, Schuh is probably wrong. Whether the medial vowel system reconstructed for PB is correct or not – and I have my doubts – this could not have been what the PH system looked like. It is true that modern Hausa has come to have a medial vowel system strikingly similar to the postulated PB one, but I would nevertheless propose that the proto-language had a very different system. Specifically, in place of the system with 2 short and 5 long vowels, I would propose a simple system based on 3 vowels, **i*, **a*, **u*, all of which could occur either long or short.

1.1. Medial short vowels

In a rich and highly imaginative treatment of Hausa phonology, Parsons (1970) argues that, synchronically speaking, Hausa can be analyzed as having only 2 underlying medial (i.e. non-final) short vowels: a high vowel /*I*/ and a low vowel *a*. The claim is that medial *i* and *u* are non-contrastive variants of the same phoneme, the surface realization depending on the nature of the adjacent consonant(s). The difference in the first syllable of pairs such as *budàa*/*bidaa* ‘bespatter’/‘seek’, *turàa*/*ciraa* ‘dye’/‘lift up’, *zumàa*/*jimaa* ‘honey’/‘delay’, *sùngaa*/*shìngee* ‘throw’/‘termite’, *gùdaa*/*gidaa* ‘unit’/‘house’ is thus said to lie in the consonants and not in the difference between *i* and *u* as traditionally described.

Schuh (1978) enthusiastically endorses Parsons’ analysis, not only as the synchronic tour de force that it is, but also as an accurate historical picture. But on closer look, it becomes clear that Parsons’ analysis cannot be accepted so readily.

In the first place, the analysis presents a number of serious problems that cast doubt about its adequacy even at the purely synchronic level. For example, in treating palatals, Parsons’ system requires that the identical syllable [*ji*] in *jìkii* ‘body’ and in *na-mìjì* ‘male’ be analyzed phonemically in opposite ways: /*j*/ + /*I*/ in the first case, /*z*/ + /*i*/ in the second. Worse still, in a trisyllabic word such as *bincikaa* ‘inquire into’, it is impossible to account for the [*c*], since Parsons doesn’t have underlying palatal consonants except in initial position, but neither can he have it conditioned by the following [*i*], which is merely a surface variant of the neutral vowel /*I*/ or /*U*/. A different kind of problem is seen in the dialect variants *sanii* = *shinàa* ‘to know’ or *sabii* = *shibàa* ‘teasing cotton’ (parallel to *barii* = *biràa* ‘to leave’), where Parsons (1970:287) is forced to appeal to a “suprasegmental Y-coloration change” to account for the *shinàa*/*shibàa* forms since the obvious explanation, i.e. vowel metathesis followed by automatic palatalization of the /*s*/ in the environment of a front vowel, runs counter

to his theory.

In the second place, Parsons' analysis is historically at odds with the internal and comparative evidence, which supports the idea that medial /i/ and /u/ were in contrast.⁴ However one might view Parsons' phonological approach for a synchronic analysis of Hausa, historically the contrast in pairs such as *zumàa/jimàa* clearly lay with the vowels while the difference in the consonants was conditioned and secondary.⁵ Examples of palatal consonants reflecting an alveolar in the environment of what must be considered a distinctively high front medial vowel include *jikii* 'body' < **ziki*, cf. Bole *zìwò*; *jìka* 'become wet' < **zika*, cf. Kanakuru *yèke*; *ciri* 'pull out' (pre-noun form) < **tiri*, cf. Galambu *tál-* (cf. *tunkiyau* 'sheep' < **tumki*, where the /t/ preceding /u/ has not palatalized). I conclude, therefore, that PH *did* have a contrast between medial short /i/ and /u/ and that it thus had 3, not 2, short vowel phonemes in medial position, *i, *a, *u, all three of which could presumably occur in closed as well as open syllables.

1.2. Medial long vowels

In medial position Hausa has 5 long vowels, *ii*, *ee*, *aa*, *oo*, *uu*.⁶ (The description and discussion here refer only to open syllables since Hausa does not allow long vowels in closed syllables.) Since all five of these vowels occur freely and in contrast in normal, native words, it would seem reasonable to reconstruct them as such for PH and to match them with the corresponding long vowels reconstructed for PB. There are, however, phonotactic co-occurrence patterns concerning the mid vowels *ee* and *oo* which previously have not been noted, but which are of critical historical importance.

If one takes a list of common Hausa nouns of the form CVCV, e.g. Parsons (n.d.), one finds that almost all the nouns with a mid vowel as the first vowel also have a mid vowel as the final vowel, e.g. *beebee* 'mute', *geerò* 'millet', *toozoo* 'hump', *zoobèe* 'ring'. There are exceptions, e.g. *reemaa* 'coney', *goonaa* 'farm', but these are few. Conversely, nouns with *ii* or *uu* in the first syllable normally do not end in a mid vowel. Words such as *riigaa* 'gown', *kiifii* 'fish', *bùuraa* 'penis', *tùuluu* 'water-pot', and *suurii* 'ant-hill' are common while *jìigò* 'pole of shadoof' and *tuushèe* 'base', for example, are phonotactically unusual. Thus, rather than being completely independent, as generally assumed, the long mid vowels and the long high vowels can be seen to be in partial complementary distribution, depending on the nature of the (historically stable) final vowel. Synchronically the mid and high vowels are clearly contrastive; but in most cases this contrast can be explained by one natural historical process or another, leaving very few examples unaccounted for. I would suggest, therefore, that *ee* and *oo* did not exist as separate phonemes in PH, but

rather were simply allophones of *ii* and *uu*, respectively. In other words, PH had 3 (not 5) medial long vowels, corresponding to the 3 short vowels also occurring in that position.

2. THE ORIGIN OF *ee* AND *oo*

2.1. The medial mid vowels that are now found in Hausa have three sources, one phonologically regular, the other two sporadic, but important in bringing about phonemic contrast. The major source of the mid vowels was the assimilation of long *ii* and *uu* to a mid vowel in the following (final) syllable, i.e.

$$(1) \quad \begin{array}{c} *V \\ [+high] \\ [+long] \end{array} > \begin{array}{c} V \\ [+mid] \\ [+long] \end{array} / \text{---} \dots V \quad [+mid]$$

Presumed examples of words having undergone this change are:

$$(2) \quad \begin{array}{ll} *biibe > beeb\acute{e}e & \text{'mute'} \\ *kiis\acute{o} > kees\acute{o}o & \text{'mat'} \end{array} \quad \begin{array}{ll} *tuuzo > toozoo & \text{'hump'} \\ *zuub\acute{e} > zoob\acute{e}e & \text{'ring'} \end{array}$$

The rule did not apply to short *i* and *u*, which explains why short *e* and *o* do not occur medially in Hausa even though these vowels do occur short in final position. In looking at cognates, one finds that the long mid vowels commonly correspond to short vowels elsewhere, e.g.

(3) Hausa		Other West Chadic	
'spit'	<i>toof\acute{e}e</i>	Bole	<i>túfú</i>
'hare'	<i>zoomoo</i>	Kulere	<i>sumór</i>
'spew'	<i>feesoo</i>	Kirfi	<i>fish-</i>
'hut'	<i>beenee</i>	Goemai	<i>pin</i>

If the sound law as formulated in (1) is basically correct, then the medial **i*'s and **u*'s in the above examples would have already had to have been long when the lowering took place. What we do not know is whether pre-PH underwent a lengthening rule **i* and **u* > *ii* and *uu* (under certain circumstances to be determined) or whether the long high vowels in these cases represent retentions from Proto-West Chadic which were lost in the other languages.

The vowel lowering was presumably an automatic phonological rule. Apparent exceptions are thus due to changes affecting either the medial vowel or the final vowel that occurred after this very early rule. For

example, the addition of the feminine endings *-(iy)aa* and *-(uw)aa* (see Newman 1979), which resulted in long mid vowels occurring before *i/u* instead of the expected *e/o*, must have taken place after the lowering rule had already had its effect, e.g.

- | | | | | | | |
|-----|---------------------|-------------|---|------------------|---|---------------|
| (4) | <i>tooliyaa</i> | 'tuft' | < | <i>*toole-aa</i> | < | <i>*tuule</i> |
| | <i>beeguwa</i> | 'porcupine' | < | <i>*beego-aa</i> | < | <i>*biigo</i> |
| | <i>tootùwaa</i> | 'pulp' | < | <i>*tootò-aa</i> | < | <i>*tuutò</i> |
| | cf. <i>duudùwaa</i> | 'a song' | < | <i>*duudù-aa</i> | < | <i>*duudù</i> |

Examples of long high vowels followed by a mid vowel that have not changed are most often *uu*'s that have developed from a VC sequence (Klingenheben 1927/28) after the lowering rule was no longer operational, e.g.

- (5) *tuushèe* (not ??*tooshèe*) 'base' < **tukwsè* (cf. pl. *tukwaasuu*)
jùucee (not ??*jòocee*) 'communal contribution' < **zibte* (cf. N. dialect form *jibcee*)
duutsèe (not ??*dootsèe*) 'stone' < **duwc'è* (cf. pl. *duwàatsuu*)

Other examples include new creations (e.g. *kuurèe* 'male hyena' < *kuuraa* 'hyena'), sporadic lengthening (e.g. *buushiyaa* 'hedgehog' < *bushiyaa* < **buse*),⁷ and loanwords (e.g. *dattijò* 'gentleman', from Fula).

2.2. A second source of the mid vowels has been the sporadic change of long *aa* to *ee/oo* following palatal(ized) and labialized consonants, respectively. While the more systematic changes in Hausa concern the effect of vowels on consonants (see sec. 1.1), the opposite does also take place, e.g.

- (6) *ceerāa* 'crowing of cock' < and = *caarāa*
c'eereeriya 'brown bean' < **c'aaraariya*

Compare this Sokoto dialect form with the initial palatal *c'* with the Standard Hausa *tsaarariya*, where the *aa* in the environment of the alveolar *ts* (= [*s'*]) does not front.

- (7) *ceediyaa* 'fig tree' < **caadiyaa* (< **caade*)

Note the plural form *cèedàkuu*, normally limited to nouns with a long *aa* in the first syllable.

- (8) *jeejii* 'bush' < **jaajii* (< and = *daajii*)

It is standard to relate the two variants *jeejii/daajii* by a sporadic vowel change of *aa* to *ee*, followed by automatic palatalization of the initial *d* to *j*. I would suggest that the order of change could just as easily have been the reverse, i.e. initial *d* went to *j* anticipating the *j* in the second syllable, followed by the *aa* > *ee* change in the environment of the two palatals.

- (9) *goonaa* 'farm' < and = *gwaanaa*
koodàa 'kidney' < and = *kwaadàa*

2.3. The third source of *ee/oo* has been the sporadic monophthongization of *ai* and, less often, *au*, a recent process that is still in evidence, e.g.

- (10) *seemaa* 'container' < and = *saimaa*
deenàa 'cease' < and = *dainàa*
loomàa 'morsel' < and = *laumàa*
dookii 'horse' < **daukii* (< **dawkì*, cf. pl. *dawaakii*)

2.4. With the establishment of *ee* and *oo* as distinct phonemes, their incidence has continued to increase, especially due to the addition of loanwords, e.g.

- (11) *teelà* 'tailor' *mootàa* 'automobile'
feegì 'peg' *joojì* 'judge'

2.5. The most important unexplained *oo* is the one that is found in the *oCi* plural formation, e.g. *tsuulàa* 'blue monkey', pl. *tsuuloolii*; *jiikàa* 'grandchild', pl. *jiikookii*. This, however, is probably not so much a problem of phonology as it is of historical morphology, i.e. how to account for the development of this particular plural formation, which, as Parsons (1975:439) has claimed on other grounds, is almost certainly historically recent.

3. SYNCRONIC VOWEL ALTERNATIONS INVOLVING THE MID VOWELS

The effects of conditioned historical sound changes are often to be seen synchronically in grammatically conditioned ablaut. Or, to put it differently, synchronic morphological alternations often have as their explanation historically earlier phonological rules which no longer apply, either because the original conditioning environment has been obliterated or because the rules are simply no longer productive.

In Hausa, the discovery of the vowel lowering rule **ii/*uu* > *ee/oo* allows us to account in a natural way for certain constructions involving

synchronic vowel alternations which formerly were treated as completely unrelated. One is the seldom-discussed alternation between verbs and corresponding ablauted verbal nouns; the other is the well-known (but unexplained) alternation between pre-noun and pre-pronoun forms of grade 2 (= "changing") verbs. This is not to say that the historical sound change in itself solves all the problems in connection with these constructions, but it seems clear that the sound change lies at the heart of these present-day alternations and thus that it provides the key for understanding how these alternations came about.

3.1. *Ablauted secondary verbal nouns*

In addition to its normal verbal nouns, Hausa has functionally similar verbal nouns, which, since Abraham (1959), have come to be known as "secondary verbal nouns" (2vn's).⁸ Among the many morphological forms of 2vn's, there is one characterized by final *-aa*, Hi-Lo tone, and an ablauted medial vowel. The following list shows that this formation type is less rare and less "irregular" than usually implied.

(12)	Verb	2vn		Verb	2vn		
	'flay'	<i>feedàa</i>		<i>fiidàa</i>	'beat'	<i>dòokaa</i>	<i>duukàa</i>
	'pare'	<i>feerèè</i>		<i>fiiràa</i>	'rub'	<i>gòogaa</i>	<i>guugàa</i>
	'throw at'	<i>jèefaa</i>		<i>jiifàa</i>	'sharpen'	<i>koodàa</i>	<i>kuudàa</i>
	'tan'	<i>jeemàa</i>		<i>jiimàa</i>	'pierce'	<i>sòokaa</i>	<i>suukàa</i>
	'smith'	<i>keeràa</i>		<i>kìiràa</i>	'scratch'	<i>soosàa</i>	<i>suusàa</i>
	'scrape'	<i>rèedaa</i>		<i>riidàa</i>	'fry'	<i>sooyàa</i>	<i>suuyàa</i>
	'shake'	<i>reegàa</i>		<i>riigàa</i>	'burn'	<i>tooyàa</i>	<i>tuuyàa</i>
	'winnow'	<i>sheekàa</i>		<i>shiikàa</i>			
	'comb out'	<i>tseefèè</i>		<i>tsiifàa</i>			
	'dip out'	<i>deebèè</i>		<i>dìibàa</i>			

Surprisingly, this formation type has received little attention by Hausa-ists in spite of its somewhat unusual status within the language and the importance traditionally ascribed to ablaut in typological/comparative studies (e.g. Klingenheben 1930/31; Lukas 1937/38). It has just been taken for granted that morphologically-conditioned ablaut occurs in the formation of these particular 2vn's and that the change is from the mid vowels *ee* and *oo* to the high vowels *ii* and *uu*, respectively. Viewed historically, however, it seems clear that the basic mechanism was phonological, not morphological, and that the direction of change was the reverse, i.e. that it is the 2vn form with its long high medial and neutral final vowel which

has preserved the original medial vowel whereas the present-day verb forms are the result of the application of the general vowel lowering rule. The 2vn's *fīrāa* and *guugāa*, for example, would thus originally have been derived, not by a process of ablaut, but by direct addition of an *-aa* suffix and Hi-Lo tone to the lexical roots **fīir-* and **guug-*, which underlay all related verbal and nominal forms. The alternation in the root vowel that now exists between verbs and 2vn's, and which synchronically has to be described by an ad hoc *ee/oo* → *ii/uu* rule, is due to the fact that the verb forms have undergone the historically regular **ii/*uu* > *ee/oo* change.

3.1.1. The above analysis of course requires that the verb have had a final mid vowel in at least some form(s) in order to condition the vowel lowering. Since internal evidence clearly favors a front vowel,⁹ the presumed final mid vowel must have been *-e*. The analysis also requires that one or a combination of these forms with *-e* have been important enough to serve as the basis for a new, generalized verb base on which all verb forms would then be built. The following examples illustrate the hypothetical development:

- | | | | | | | |
|------|---------------|---|--------------|---|---------------------------|-------------|
| (13) | <i>*riige</i> | > | <i>reege</i> | > | ^o <i>reeg-</i> | 'to shake' |
| | <i>*suuke</i> | > | <i>sooke</i> | > | ^o <i>sook-</i> | 'to pierce' |

The hypothesis that Hausa verbs were remodelled on a form ending in *-e* seems likely. Identifying this form is a more difficult question. One possibility is that it was the pre-pronoun verb form with final *-ee*, e.g. *taa dōokee ni* 'she beat me'. Although the verbs in (12) are listed in three different "grade" forms,¹⁰ gr. 1, gr. 2, and gr. 4, they all can be assumed to have originally been gr. 2 verbs, i.e. the historical reflexes of the Chadic "schwa-class" (Newman 1973, 1975; Schuh 1977). They all would thus have had a pre-pronoun form with final *-ee* (see sec. 3.2), and this form, in contrast to the pre-noun form with final *-i* (the underlying form), would necessarily have had a lowered medial vowel, e.g.

- | | | | |
|------|------------------|-------------------------|------------------------------------------|
| (14) | Pre-pronoun form | | Pre-noun (basic) form |
| | <i>fēeree</i> | (not ?? <i>fīree</i>) | vs. <i>*fīri</i> |
| | <i>rēedee</i> | (not ?? <i>rīidee</i>) | vs. <i>*rīidī</i> |
| | <i>dōokee</i> | (not ?? <i>dūukee</i>) | vs. <i>*dūuki</i> (cf. PB <i>*duku</i>) |
| | <i>sōoyee</i> | (not ?? <i>sūuyee</i>) | vs. <i>*sūuyi</i> (cf. PB <i>*suru</i>) |

Similarly, grade 4 (totality) verbs and statives have a final *-e(e)* and thus also would have required that the stem vowel be mid, e.g.

- (15) gr. 4 *reegèe* (not ??*riigèe*)
 gr. 4 *googèe* (not ??*guugèe*)
 stative *tsèefe* (not ??*tsiife*)
 stative *tòoye* (not ??*tùuye*)

Even if one cannot determine at this time precisely what the form with *-e* was that conditioned the lowering of the stem vowels, one can be sure that it was an essential form in the verbal system as a whole and not limited to just those verbs that in present-day Hausa happen to have corresponding ablauted 2^{vn}'s. Almost all verbs with medial *ee* and *oo* can thus be presumed originally to have had medial *ii* and *uu* even though they may not synchronically exhibit alternations involving these vowels, e.g.

- (16) *feesàa* 'spew' < **feese* < **fiise* (cf. PB. **fisu*)
toofàa 'spit' < **toofe* < **tuufe* (cf. PB **tufu*)
kòoyaa 'learn' < **kooye* < **kuuye* (cognate with Kanakuru *kùke*?)

As in the case of the surface exceptions to the vowel lowering rule in nouns, some explanation will have to be found for the long high vowels found in verbs that have remained as such, e.g. *ciizaa* 'bite', *buudèe* 'open'. But it should be noted that apart from verbs such as *shuukàa* 'sow' (< **sipka*) and *cùuraa* 'knead into balls' (< **tibra*), where the long high vowel has come from a lost syllable-final consonant, medial long high vowels in Hausa verbs are much less common than the corresponding mid vowels.

3.2. Vowel alternation in grade 2 verbs

The vowel alternation in Hausa that has best captured the attention of linguists is that found in the "changing verbs" (Abraham 1959), i.e. the grade 2 verbs of Parsons (1960). The alternation here is between final *-aa*, *-ee*, and *-i* depending on whether the verb has no direct object, a pronoun direct object, or a noun direct object, e.g.

- (17) *taa sàyaa* 'she bought (it)'
taa sàyee sù 'she bought them'
taa sàyi zanèe 'she bought a cloth'

In Newman (1973) I suggested that the alternation could be seen as less arbitrary than usually assumed if (a) the form with *-i* were taken as basic,¹¹ (b) the final *-ee* were viewed as phonologically derived from *-i* via an intermediate stage in which the underlying *-i* (like all verb-final vowels) was lengthened before a pronoun object, and (c) the final *-aa* were seen as coming from a different morphological form and not derived in any direct sense from the underlying verb form with *-i*.¹²

The major problem with proposal (b), the only one of the three that I shall discuss here, was that there didn't seem to be any phonological reason in present-day Hausa why lengthened *-i* should change to *ee*. Now that we have a historical vowel lowering rule, we can assume that it was in some way responsible for the *-i/-ee* alternation. The explanation for the conditioning environment, however, turns out to be extremely complicated, depending on a complex interplay of phonological and morphological factors. Without going into a full discussion of the details, I would like to sketch out the general lines of the probable development.

3.2.1. West Chadic languages commonly have two different object pronoun paradigms: one is a "free" set, typically used as direct object in basic tenses; the other is a bound, suffixed set, used as Intransitive Copy Pronoun, indirect object, and also, in the case of some verbs and tenses, as direct object. The bound set is often the same as or very similar to the possessive pronoun set. On the basis of the pattern of pronoun sets found in the languages most closely related to Hausa (see Kraft 1974, Schuh 1978), one can also reconstruct two object pronoun paradigms for Proto-Hausa:

(18) Free Direct Object Set

1 sg	* <i>ní</i>	1 pl	* <i>mú</i>
2 m	* <i>ká</i>	2 pl	* <i>kú</i>
2 f	* <i>kí</i>		
3 m	* <i>sí</i>	3 pl	* <i>sú</i>
3 f	* <i>tá</i>		

(19) Bound Object Set

1 sg	*- <i>nò</i>	1 pl	*- <i>mù</i>
2 m	*- <i>kò</i>	2 pl	*- <i>kù</i>
2 f	*- <i>kì</i>		
3 m	*- <i>nì</i>	3 pl	*- <i>sù</i>
3 f	*- <i>tò</i>		

Reflexes of the entire free set (18) can still be seen, e.g. in the direct object pronouns of gr. 1 verbs, e.g. *yaa kaamàa ni* 'he caught me', *yaa kaamàa ka* 'he caught you', etc. The original bound set (19) is no longer so evident, and synchronically its existence has never been suggested. Nevertheless, in some respects it is not so different from the direct object pronouns of gr. 2 verbs. For example, as recognized clearly by Pilszczikowa (1969), the object pronouns of gr. 2 verbs must be treated as suffixes, which are more tightly bound to the verb than are the object pronouns

of gr. 1 verbs. Second, these pronouns are characterized by Lo tone (see sec. 3.2.2 following).¹³ Note, moreover, that if the bound set (including the pronoun forms *nò*, *kò*, *tò*) represented the paradigm that gr. 2 verbs used as direct objects, one would have, in some persons at least, the missing conditioning factor for the *ii* to *ee* change. I would like to suggest, therefore, that this in fact was the case: the bound pronoun set as reconstructed in (19) originally constituted the direct object paradigm of gr. 2 verbs. The consequences of this assumption in terms of the vowel lowering rule and the *-i/-ee* alternation can be seen in the following examples:

- (20) **ta sàkii-nò* → **ta sàkee-nò* 'she released me'
 (cf. **ta sàki biri* 'she released the monkey')
**ta sàarii-kò* → **ta sàaree-kò* 'she slashed you (m)'
 (cf. **ta sàari yaarò* 'she slashed the boy')
**ta sàyii-tò* → **ta sàyee-tò* 'she bought it (f)'
 (cf. **ta sàyi kàaza* 'she bought a chicken')

The pronouns not ending in *-o* would not have conditioned the vowel lowering and thus for some period of time there would have been surface variation in the verb forms:

- (21) **... sàkee-nò* **... sàkii-mù*
**... sàkee-kò* **... sàkii-kù*
**... sàkii-kì*
**... sàkii-nì* **... sàkii-mù*
**... sàkee-tò*

Subsequently, two things happened: (a) the entire bound pronoun paradigm (except for tone) was replaced by the free object set, as a result of which **sàkee-tò*, for example, became *sàkee-tà*; and (b) the verb final *-ee* was reinterpreted as a pre-pronoun marker and spread to all persons, including those where it was not phonologically conditioned by the form of the pronoun, e.g. **sàkii-mù* > *sàkee-mù*. Exactly how these two factors related to one another sequentially or causally I cannot say; but the result was a completely restructured system in which the evidence for the originally phonological basis of the *-ee* before pronoun objects, and thus of the *-i/-ee* alternation, was completely obliterated.

3.2.2. Generally speaking, direct object pronouns in Hausa are described as having polar tone, i.e. being opposite in tone to the tone of the preceding syllable, e.g.

(26)	Initial	Medial	Final
	<i>i</i>	<i>i/ii</i> <i>u/uu</i>	<i>i</i> <i>u</i>
			<i>e</i> <i>o</i>
	<i>a</i>	<i>a/aa</i>	<i>a</i>

The major source of the medial *ee*'s and *oo*'s that are found in present-day Hausa was a regular sound law lowering long high vowels to mid in the environment of a following mid vowel. This sound law accounts for phonotactic patterns in the nominal system and helps to explain synchronic vowel alternations in the verbal system, namely the *ee/oo* vs. *ii/uu* alternation between verbs and "ablauted" verbal nouns, and the *-i* vs. *-ee* alternation between the pre-noun and pre-pronoun forms of grade 2 verbs.

NOTES

1. In many Bole group languages, final /a/ in monosyllabic verbs is long. This could possibly be a feature going all the way back to Proto-West Chadic. The source for all of the Bole group examples and PB reconstructions cited in this paper is Schuh (1978).
2. In citing examples, real or reconstructed, long vowels are indicated by double vowels, short vowels by a single vowel. Lo tone is indicated by a grave accent (*à* or *àa*); Hi tone is usually left unmarked, although where needed it is indicated by an acute accent (*á* or *áa*). Hypothetical forms are marked by *. Ungrammatical forms are marked by ??.
3. Schuh proposes that the lost article was a previous reference marker *-i. Greenberg does not attempt to reconstruct the article as such, but does assume that it was a single form which did not vary for gender or number. In my opinion, a better hypothesis is that the lost article was not a single vocalic suffix, but rather was a gender/number sensitive deictic with two forms: *-n (plus lengthening of the preceding vowel) with masculine and plural nouns, *-aat with feminine nouns, e.g. *mijii* 'husband' < **mizii* < **mizi* + -n; *wutaa* 'fire' < **wutaat* < **wuti* + -aat. For a similar process of morphophonological lengthening before the article -n in Bade, see Schuh (1974/75); for the idea of the feminine -t in Hausa being part of the noun stem, see Skinner (1975).
4. The best example of a direct /i/ vs. /u/ contrast in a comparable environment is the following pair taken from the Gwandara "dialect" (Matsushita 1972): *buci* 'ashes' vs. *bíri* 'monkey', cf. PB **buto* and **bido*, respectively.
5. This is not to say that PH didn't have palatal consonants – I think that it did – but that in most cases, palatal consonants come from a process of palatalization in the environment of a front vowel.
6. Parsons (1970) analyzes Hausa long vowels as sequences of short vowel + semi-vowel, i.e. *ii* = *iy*, *uu* = *uw*, *aa* = *ah*, and *ee* and *oo* = *ah* with extensive Y and W prosody. While the system might work for *ii* and *uu* – and in a few words is historically accurate – there is nothing to recommend it for *aa*, *ee*, or *oo*. From a Chadic perspective, the long vowels are best treated as long vowels. My use of double letters (i.e. *aa* for *ā*) is simply a transcription device. For purposes of this paper, I have ignored the diphthongs /ai/ and /au/, even though synchronically I consider them as true diphthongs and not as sequences of vowel + semivowel (Newman 1978).
7. Note that *buushiyaa* could not come directly from the phonologically permissible form **buusi* since the feminine of nouns with underlying Hi tone -i is formed with -aa, not -iyaa. This morphological rule and the vowel lowering rule, taken together, explain why feminine nouns ending in -iyáa are not normally preceded by a long high vowel, a phonotactic restriction not previously noted.

8. The grammatical distinction between the various verbal noun forms in Hausa has never been adequately described. I am indebted to Claude Gouffé (through personal communication) for helping to clarify my ideas on the subject.
9. In CVCV verbs (apart from grade 3 verbs which end in -a), a semivowel in C₂ position is always /y/, not /w/. If the underlying final vowel of the verb were a back, rounded vowel, one would expect the restriction on the occurrence of the semivowels to be the opposite.
10. For an explanation of the Hausa "grade system", see Parsons (1960) and Newman (1973).
11. Leben and Bagari (1975) have presented arguments why synchronically one might want to continue to treat the citation form with final -aa as basic. In any case, this would not affect the historical claim about the basicness of the -i form.
12. The probable explanation for the -aa form is to be found hidden away in a footnote in Lukas (1963:168n), namely that it originally was a verbal noun which came to be used in place of the finite verb when no object was expressed.
13. Perhaps more consistent with the idea that these pronouns are suffixes is Pilszczikowa's (1969) analysis, in which the pronouns have no tone of their own, but rather are assigned tone in accordance with the general tonal pattern of the verb stem. I shall, nevertheless, continue to treat them as inherently Lo in order to contrast them with the inherently Hi free direct object pronouns.
14. In the imperative, the direct object pronoun of a gr. 2 verb is high, e.g. sàyyè-tá 'buy it!'. This is because the object suffix has been fused in the verb stem before the assignment of the Lo ... Hi imperative pattern.

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